

CoCoRaHS

Winter 2010-2011

OBSERVER

*Tell the National Weather Service How Much Rain or Snow **You** Got!*

CoCoRaHS (Community Collaborative Rain, Hail, and Snow Network) is a unique, non-profit, community-based network of volunteers working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools and utilizing an interactive website, the goal is to provide the highest quality data for natural resource, education, and research applications. The network has grown by leaps and bounds in recent years, but we still need many more observers, especially in Kentucky. While Indi-



EF-1 tornado damage in Warren County on October 26.
Photo: NWS

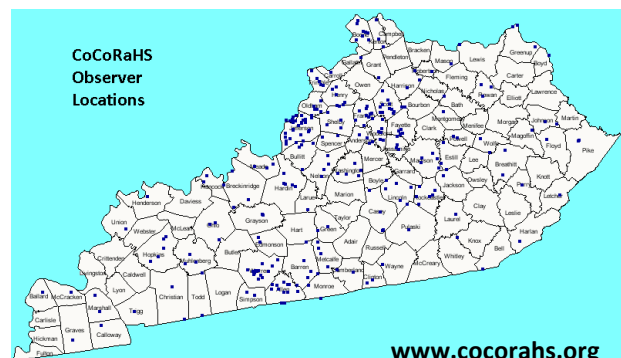
ana and Tennessee have over 1,100 observers apiece, Kentucky had only 364 as of December 1.

It's easy to join CoCoRaHS — simply sign up at the website (www.cocorahs.org). All you need is a rain gauge (the website tells you how to get one) and a connection to the Internet.

Check out the CoCoRaHS website or contact your local National Weather Service office for more information on this useful and fun program today!

In This Issue...

Measuring Snow and Ice	2-3
Filling Out the Daily Precipitation Form	4
Autumn Weather Data	5
Freezing Rain	5
Selected Daily Comments	5
Contact Info	5



Measuring Snow and Ice



Measuring snow and ice takes a little more time and trouble than measuring rain, however the winter precipitation data provided by CoCoRaHS observers are very important to the National Weather Service and other users. Any time you're able to send us snow information we greatly appreciate it!

The first step comes before any snow even occurs. At the start of the cold season, or when snow appears in the forecast, you'll want to remove the inner tube and the funnel from your rain gauge. Keep them inside until warm weather returns, leaving only the large outer gauge outside. The funnel and inner tube can crack during times of icy weather and when the temperature fluctuates between sub-freezing and above freezing temperatures. Also, heavy snow will clog up the funnel.



Ideally, it's good to have a snow board on which to measure snow depth on the ground. A snow board is simply a 2'x2' piece of plywood that has been painted white, and placed in a spot that doesn't drift easily. Of course, a snow board isn't absolutely necessary. The key is to pick a flat place away from obstructions that allows snow to accumulate easily. A metal yard

Tip:

Put a flag in the ground next to your snow board so you can find it when it's buried beneath the snow.

stick is the best choice for measuring snow depth, but any ruler will do. Remember, though, to report your snow depth in tenths of inches. Clean off the snow board after each measurement.

If there was a lot of wind with the snowfall, and it's difficult to find a level spot on which to measure, then measure as many different spots as you have time for and average the numbers together.

Please measure the depth of the snow on the ground whenever snow is present, regardless if any snow has fallen in the last 24 hours or not. You can send in a report of zero precipitation with your snow depth.

Sometimes there are patches of snow here and there, but with bare ground showing as well. If *more* than half of the ground has snow on it, measure the snow that is there and average it with the bare ground (zero depth on the bare ground). If *less* than half of the ground has snow on it, simply carry a "trace" of snow depth. Be careful to stay away from piles of shoveled snow.



Measuring Snow and Ice

When fallen snow fills up your gauge, you'll need to melt that snow into water to get a liquid precipitation amount (the number you normally enter at the website for rainfall during warm weather).

1. Bring the gauge inside.
2. Locate the inner tube and funnel that you removed before the snow fell.
3. Fill the inner tube with warm (not hot) water. *Write down the amount of water you put in the inner tube!*
4. Pour the warm water into the large, snow-filled outer tube. Swirl the snow and water around until all the snow has melted.
5. Place the funnel on the inner tube and pour the water from the large outer tube back into the inner tube. Record the new amount of liquid in the inner tube.
6. Subtract the amount you recorded in step 3 out of the number you got in Step 5. That's your answer! That's the "water equivalent" of the snow that fell, or, in other words, if the snow had fallen as rain, that's how much rain would have fallen.

You may have heard that there is a 10-to-1 ratio between snow and rain (so, 1.0" of snow would be .10" of rain). This ratio is actually not true much of the time, so it's best if you actually measure the liquid equivalent using the above process, rather than assuming an arbitrary 10-to-1 ratio.



Tip:

Though not officially sanctioned by CoCoRaHS, KY-FR-1 suggests using Rain-X Windshield De-Icer to free the outer cylinder from the mount.

Remember:

On the Daily Precipitation Report Form, enter no more than the past 24 hours' worth of precipitation. For a precipitation amount spanning more than one day, use the Multi-Day Precipitation Report Form.



Even if just one raindrop or snowflake falls, that's a "trace"!

Be sure to send in your zeroes on dry days!

Note:

Sleet (and hail) are recorded as snowfall (rarely more than a trace).



January 30, 2010 near Fairdale. Tony Bright

Filling Out the Daily Precipitation Report Form

This is probably our most important form since it is used almost every time we submit a report. The form does not have to be completely filled out — just fill in whatever blanks you are able. It is easy to make mistakes (we're all human!) but we should fill it out as accurately and thoroughly as possible. Here's a quick description of some of the parts of the form:

Precipitation Report Form		Submit Data	Reset
Station Number : KY-JF-1			
Station Name : Anchorage 2.8 NE			
* Denotes Required Field			
12/12/2010	* Observation Date ?		
7:00 AM	* Observation Time ?	Be sure to change this if measurement is not taken at 7am	
0.00	* Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours	No more than 24 hours' worth of precip!	
<input checked="" type="radio"/> Yes <input type="radio"/> No	Report was taken at registered location?		
Observation Notes: (This will be available to the public) ?			
<div></div>			
New Snowfall			
NA	Accumulation of new snow in inches to the nearest tenth ? New snowfall		
NA	Melted value from core to the nearest hundredth ? Liquid value of snowfall		
Total Snow and Ice on Ground at Observation Time			
NA	Depth of total snow and ice (new and old) in inches to the nearest half inch ?		
NA	Melted value from core to the nearest hundredth ? All snow on the ground		
Liquid value of snow on the ground			
Duration Information			
If a time is unknown or the storm has not ended leave it blank.			
Precipitation Began		<input type="radio"/> AM <input type="radio"/> PM	
Precipitation Ended		<input type="radio"/> AM <input type="radio"/> PM	
Heaviest Precipitation Began		<input type="radio"/> AM <input type="radio"/> PM	
Heaviest Precipitation Lasted		minutes	
These times are:	Select Time Accuracy		
Additional Information			
Any Flooding?	Select a Flooding Value		
<input type="radio"/> Yes <input type="radio"/> No	Did you record hourly precipitation (or other detailed time increments) for this storm? If yes, CoCoRaHS personnel may request a copy of this data later, so please save it.		
		Submit Data	Reset

Autumn Weather Data

Highest Precipitation Amount: 13.66" at KY-PL-4, Somerset 1.7 WNW

Lowest Precipitation Amount: 5.84" at KY-FY-2, Lexington 5.2 SSW

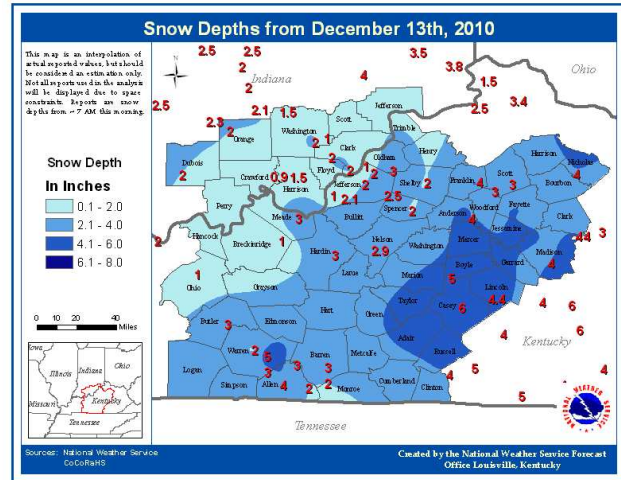
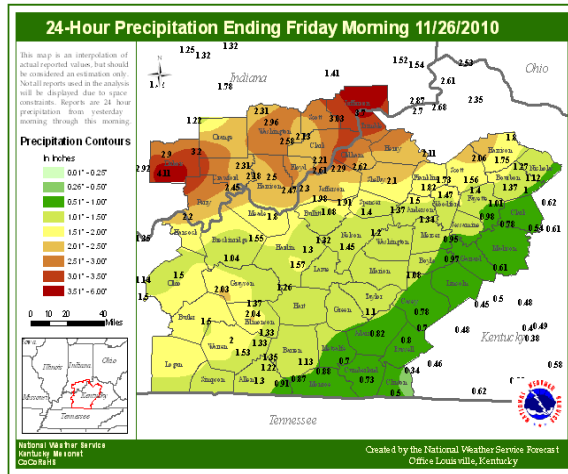
Most snow: 1.6" at KY-SH-2, Shelbyville 3.2E

Heaviest One-Day Precipitation Amount: 4.92" at KY-CS-3, Windsor 0.8NW on September 10-11

Heaviest One-Day Precipitation Amount Averaged Across Kentucky: 1.46" November 25-26 among 111 stations

9035

That's the number of daily precipitation reports filed by Kentucky volunteers this fall! Your reports were used every day, such as when significant precipitation fell and the National Weather Service produced areawide maps such as those shown here. Thank you!



Freezing Rain

Freezing rain falls as a liquid, then freezes into ice when it hits a cold surface. Since it falls as a liquid, it is not snow...it's recorded as liquid rainfall. Of course, if your gauge is encased in ice, it can be quite difficult to come up with an accurate measurement. To attempt to get a measurement, melt the ice that is on the *inside* of your gauge and add it to any liquid water that might be in the bottom of the gauge (use the same method as measuring snow in the gauge). Make a mention in the comments section that you received freezing rain. If you have time, you can measure the thickness of the ice on branches or your car and include that in your comments.



We'd love to see a picture of your station! Feel free to send any photos to us at w-lmk.webmaster@noaa.gov.

Daily Comments Reports

Another bright clear sky,
Another day my gauge is dry;
Of this drought, I'm not clowning—
My fields are stunted and my lawn is browning!
KY-AL-11, Scottsville 4.9 NE, October 2

No rain, shall we measure the dust? *KY-WR-14, Plum Springs 0.8 NNW, September 29*

I saw some ice pellets on my golden retriever's fur.
KY-HY-7, Eminence 1.4 SE, November 6